

Application Serial No. 10/799,018
Attorney Docket No. 2156-613A

Examiner: M. Cleveland
Art Unit: 1762

CLAIM AMENDMENTS

Claim 1. (Currently amended) A method of plating a non-conductive substrate comprising the steps of:

- a) etching a surface of the non-conductive substrate with an etching solution, said etching solution comprising permanganate salt and a mineral acid;
- b) activating the etched surface of the non-conductive substrate with an activating solution comprising a palladium salt and an amine complexor;
- c) contacting the etched and activated surface of the non-conductive substrate with a reducing agent for the palladium; and
- d) electrolessly plating the etched and activated surface,

wherein manganese oxide formed on the surface of the non-conductive substrate during the etching step substantially remains on the surface of the non-conductive substrate in the activating step.

Claim 2. (Original) The method according to claim 1, wherein the etching solution consists essentially of a permanganate salt and a mineral acid.

Claim 3. (Original) The method according to claim 1, wherein the etching solution is maintained at a pH of less than about 9.

Claim 4. (Original) The method according to claim 1, wherein the permanganate is selected from the group consisting of potassium permanganate and sodium permanganate.

Claim 5. (Original) The method according to claim 1, wherein the permanganate is potassium permanganate.

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Claim 6. (Original) The method according to claim 1, wherein the mineral acid is phosphoric acid.

Claim 7. (Original) The method according to claim 1, wherein the palladium salt is palladium sulfate.

8. (Original) The method according to claim 1, wherein the amine complexor is 2-amino pyridine.

9. (Canceled)

10. (Original) The method according to claim 1, wherein the reducing agent comprises sodium borohydride in a caustic solution.

11. The method according to claim 1, wherein the electroless plating solution is selected from the group consisting of electroless nickel and electroless copper solutions.

12. The method according to claim 11, wherein the electroless plating solution is an electroless nickel plating solution that does not contain ammonia.

Claims 13-27: (Canceled)

Claim 28. (New) The method according to claim 1, wherein the non-conductive substrate is selected from the group consisting of acrylonitrile butadiene styrene and acrylonitrile butadiene styrene/polycarbonate.

Claim 29. (New) The method according to claim 29, wherein the palladium salt and the amine complexor have a molar ratio of about 1:1 to about 1:3.

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Claim 30. (New) The method according to claim 1, wherein the activating solution further comprises boric acid.

Claim 31. (New) The method according to claim 30, wherein the activating solution comprises about 50 mg palladium per 10 grams of boric acid.

Claim 32. (New) The method according to claim 1, wherein the activating solution is applied to the non-conductive substrate at a temperature of about 100 to about 212 °F.

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